

PATHWAYS

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Stages of Learning in the Primary School

It has been known for some time that there is a sequence of intellectual development in children which gives rise to periods of 'readiness' to learn. The work of Piaget and others has shown that the sequence is not haphazard but follows an immutable pattern. As with all forms of growth there are no separate steps or stages, the whole development being a gradually-changing but continuous pattern.

The studies of this intellectual development show us that few primary school children reach the point of working in the abstract. At the beginning they think in a 'pre-operational' way, moving on into 'concrete operational' mental activity. In this use of the words, 'concrete' means 'based upon present reality' and 'operational' means 'doing things to get information'; therefore we are talking about using the real things presently before children to aid their thinking. For example, a child still in the concrete operational stage may be able to solve a puzzle with the puzzle before him,

moving the parts about by trial and error; he could not solve the puzzle by working out the moves in his mind and without the puzzle before him. When he reaches the stage of thinking in an abstract, hypothetical way we say that he has passed from the stage of 'concrete operations' to that of 'formal operation'.

What does this mean in terms of planning work for primary school children? Obviously the things that we expect them to do must be within their intellectual capabilities, in particular we cannot expect them to carry out tasks which demand thinking at the abstract 'formal operations' level. In other words, their studies should involve concrete situations where they learn through direct use of their senses. In addition we should make good use of those periods of 'readiness' when children are prepared to take big steps forward in their development. The environmental studies approach to learning lends itself particularly to encouraging three such steps :—

1. **The acceleration of language development.** Children at the Class I level and probably for much their time in Class II are in the period of readiness for accelerated language development. Their vocabulary of both heard and spoken words is capable of expanding rapidly and their capacity for using symbols for language through reading and writing is also increasing.
2. **Change from egocentricity to social cooperation.** At the end of Class II and in Class III most children reach a period of readiness to work cooperatively with others, having previously been extremely self-centred.
3. **Development of manipulative and creative skills.** While these have been developing throughout the earlier years, there is a readiness to accelerate development of the practical skills at the level of Classes IV and V.

Because of their readiness at each of these stages, children find particular enthusiasm and enjoyment for the appropriate activities and hence their motivation to work at them is enhanced. Obviously it is wise to take advantage of this motivation for the process of intellectual development is helped forward if they are given activities which exercise each stage of readiness as it arises.

What are the practical implications for planning environmental studies ?

1. If the acceleration of language development is to be helped, obviously there must be opportunities for expanding vocabulary and general conceptual understanding. Therefore when children are at this stage they require environ-

mental studies which emphasise active exploration of the immediate environment so that they may meet many new ideas and situations. Much of the work should require enquiry and observation, looking for things to be seen around them and seeking their characteristics (e.g. colour, shape, whether moving or still, function). The chief objectives of studies at this time should be to learn new words, to study simple concepts (such as short/long, colours, various forms of movement and so on) in as many situations as possible and to use the new words and conceptual ideas for talking about the things around them, eventually employing them for writing and reading. Of course the latter will begin with writing and recognising the new words but later will lead to the use of sentences and longer passages.

Thus in the early years environmental studies chiefly involves taking children into the immediate locality and using it to talk with them about all the things to be seen there. Most of the talking should centre on asking them questions so that they are placed in the position of having to think about all they see, hear, touch and smell and are encouraged to talk about these experiences. In addition, let them collect things whenever possible e.g. leaves, pebbles, feathers, pieces of cloth from the tailor, cereal and pulse seeds from the food shop etc.. On returning to the classroom, the experiences in the environ-

ment may be used to develop language further through making drawings of the things they have seen and labelling them with single words, phrases, sentences or longer pieces of prose as appropriate. The collections also may be displayed or used for sorting on the basis of simple characteristics (using concepts such as colour or shape) or for collage work or, indeed, for further discussion in the classroom as they are examined more closely, again giving rise to the use of words for speaking, writing and reading. In addition, let us not forget that words are not the only form of language: number also is a means of communication. The studies described above also provide opportunities for counting, recording with numbers and practising the early stages of computation.

2. By the time children are ready to work cooperatively on individual pieces of work, their environmental studies have advanced beyond the simple observations described above. They are beginning to look more closely at the properties of the things and events they meet and to sort out and classify their discoveries. They are beginning to use this information to test out their ideas and to build a deeper understanding of their world. For example, they begin to study objectively such things as the buildings in the locality and the uses to which they are put. Such a topic involves a multiplicity of observations,

enquiries, recordings and classifications for presenting in a cohesive form. There is work here for a number of pupils, each person contributing to the whole result, thus providing the experience of cooperative working which is needed at this stage. Projects of this nature need careful pre-planning by the teacher so that each child makes a contribution which forms an essential part of the whole plan. While the children are working it is important to emphasise that the task is a cooperative, joint one and to make good use of any conflict situations which arise. For example differences of opinion may occur on such matters as the responsibility for a particular task or how the work should proceed. These situations offer an opportunity to impress upon them that the prime task for all is to help forward the group project and that personal wishes have to be subordinated to the needs of the whole group.

3. Projects such as the one above usually result almost entirely in records of a written and graphically - illustrated nature. But as project studies become more advanced and sophisticated, so does the children's readiness for advancing their manipulative and creative skills. Now the teacher's task is to help them to find alternative ways to record and display information beyond those involving writing and drawing. Often there opportunity to communicate results through model-making in a

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Lighting a Candle

In 1860 Michael Faraday, gave a series of lectures at the Royal Institution in London on 'The Chemical History of the Candle'. These lectures proved to be a landmark in the history of popular education because they gave a striking illustration of how much science can come from the simplest everyday objects. Since Faraday's time the candle has become much less 'everyday', although birthdays, Christmas and powercuts ensure that it still has a place in the home. But it has lost none of its power to attract the curiosity and excitement of many children nor, for the matter, of many adults.

Given below are some exercises based on the observation of a candle which lead a Science Teacher to think about

THE SCIENTIFIC APPROACH : HOW & WHY

They should prove equally interesting to Science teachers at all levels. You will need : Candles, candle-stands, matches, newspaper, small mirrors painting materials-paper, felt pens, crayons and so on.

Careful observation is a basic tool of science. Here is a challenge. With the candle alight in front of you, see how many observations you can make. As you make them keep a record. On the basis of your observations consider the following points :

Observation and the senses :

We live in a culture which places great emphasis on seeing, but of course we make use of other senses in observation.

What observations did you make that used senses other than sight ? If you made very few observations of this kind it is worth returning to the candle to try to add to your list. For example can you make use of the senses of smell and touch ? Can the candle flame produce a sound ?

Observation and Interpretation :

Observations may not simply be a question of noting what the senses tell you; there may be some interpretation involved.

Consider the following statements :

"There is something running down the side of the candle".

"A colourless liquid is running down the side of the candle".

"Melted wax is running down the side of the candle".

Which of these, if any, is 'pure observation' and which involves some interpretation in your part ? Do any of these statements go so far beyond the evidence of the senses that they don't really qualify as observations ?

Look through your own list and check to see if your observations are all supported by information from the use of the senses.

Observation and Checking :

Accurate observation depends on the observer continually trying to match the information he receives through his senses with his own statements. It is an active process which may often involve checking one observation against another, or one made from a different viewpoint.

For example, the flame may appear from one position not to touch the wick at all. It is possible to check this by looking at the flame from different directions. This is a kind of experiment, but it is better distinguished from the experiment proper which involves some deliberate control of the conditions. Consider your own observations; to what extent did they involve checking?

Why Science? Observation and Art.

Some of the value of doing science comes from the use of its methods in other fields and observation can make a contribution to work in art.

"Children who have acquired the habit of really searching observation will learn to see the visual world with greater understanding"—Kay Melzi in *Art in the Primary School*.

Her approach is to provide interesting, attractive objects for the children to draw or paint. She points out, however, that this does not mean a 'return to formal object drawing with its emphasis on skills of accurate representation: the aim is more to develop powers of perception and originality'.

In its turn, of course, the desire to produce an attractive satisfying effect may help to stimulate one's powers of observation.

Observing and Painting the Candle Flame.

Do some candle pictures yourself with oils, water colours or felt-tip pens. You might do as accurate and as photographic a picture of the flame and the top part of the candle as possible,

with it alight in front of you. The following questions may help you to observe the candle.

In the flame bright all over? Where do you see it brightest?

What colours can you see, and where are they?

Hold up a piece of newsprint and try to look at it through the flame. Can you read it? If so, where?

What shape is the flame? Does it come to a point at the top?

What happens when you blow gently at the flame?

What shape is the wick? What does it look like?

How would you describe the appearance at the top of the candle when it alight?

To what extent, if at all, did painting contribute to your observation? To what extent did the above questions help your observation?

Picture-Making by Children:

Of course there are limits to the extent to which picture making can be of help in stimulating observation. This may often depend on the age and stage of development of the children. Three stages which Kay Melzi describes in the development of children's ability to make pictures are:

Scribbling: This is more an exercise for the child to gain facility with the pencil or brush. Very little resemblance is discernible between the objects and the picture.

Symbolism: The picture is used more as a symbol of the child's idea of the object than to

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TEACHING A CHILD TO READ

All parents hope that their children will have happy and successful lives ahead of them. Increasingly they realise also the important part that education plays in making such dreams come true. Education, however, is not based entirely in schools nor is all learning a result of the work of teachers.

The home and family play a major part in the development of the child's attitudes towards school and learning. They provide the points of departure for the interest and ambitions of the child and act as a background of security, affection and encouragement.

These things which are valued by the parent will usually become important to the child, and parents will communicate a great deal of wisdom learning to the child over the years.

The importance of the early years before the child begins school are increasingly recognised. The child who receives plenty of learning opportunities and stimulation in the first five years of life goes to school more prepared to benefit from the tasks which he is set there. Indeed, some recent pieces of research have suggested that unless the child is provided with a good environment before he begins school, he may never reach his full potential.

One of the major factors within education which decides the success achieved by children is the level of attainment and the quality of their

reading. Reading itself is a complex mixture of language and perceptual skills and mastery of these takes place over a period of many years. A child who goes to school having had the opportunity to explore his environment fully and to discuss it freely with his parents is likely to be much better prepared for reading than the child whose experiences or opportunities for conversation have been limited.

Some of the ways in which parental involvement can help a child to develop toward reading are discussed below. While these are no doubt of relevance to parents of pre-school children, they are of equal importance and interest to teachers working in Nursery Schools.

Learning Must be Fun

It is essential that all learning activities should be enjoyable to the child. To force a child to enter into an activity he does not like may form poor attitudes and so prevent latter learning.

A young child is not 'working' in the accepted sense of the word as he experiments, and discovers new things about his world. To him, it is play because it is something he wants to do and he can start and stop when he feels like it. A child will only be unhappy and frustrated if he is forced to pay attention to something he is not really interested in, and parents/teachers will experience a sense of failure. They must be aware of the child's feelings and reactions and

know when to carry on with an activity, when to introduce something new, or when to stop.

The Importance of Reading

A child learns to communicate with others long before he learns to read. He becomes increasingly capable of understanding what others say to him and of making his thoughts and feelings known to them. Reading is an extension of communication. It is built upon the listening and speaking skills which the child has developed over the years.

In spite of the influence of the mass media in the form of television, radio and cinemas, our society still remains a reading society. We must be able to read so that we can fill in forms correctly and read maps, road signs, instructions, labels, menus, knitting patterns, telephone directories, washing instructions on garments and the manuals which go with such things as cars, washing machines and cookers.

There is a great need in today's society to read intelligently, thoughtfully and critically. This is a goal towards which the child will be working as he acquires the various skills in the reading task.

Much of what we know comes to us second-hand through print, television, radio and films. Because of this, the importance of reading critically increases as the world of mass media expands.

Parents and teachers can help to provide an environment in which a child will develop towards reading.

Some Important Factors and their Connection with Reading : Seeing, Hearing and Touching

Most parents want the best for their children. However, it must be remembered that a child in a play-pen surrounded by expensive toys may not have the same opportunities as a baby who is allowed to crawl around exploring, taking pots and pans out of cupboards and watching and helping mother around the house. (It is important to remember that all harmful items and substances should be kept out of the child's reach). Children need various types of opportunity to help them develop their senses. How many of these can be provided in school?

Each single impression, such as the feel of something cold, the sight of mother's face, the sound of a bird singing, the scent of a flower, is a beginning of learning. These impressions and their relationships to many types of experience give meaning to what children read. Recognising words would be useless if they did not convey anything the child understood.

Language and Understanding

It must be remembered that reading involves the use of language and language is simply a system which communicates meaning. If you (parent/teacher) do not talk to the child and encourage him to talk to you, how can he possibly develop the rich vocabulary or build the concepts which are essential if reading is to mean anything to him?

Imagine yourself being able to read a foreign language fluently, but unable to understand one word or phrase of that language. You

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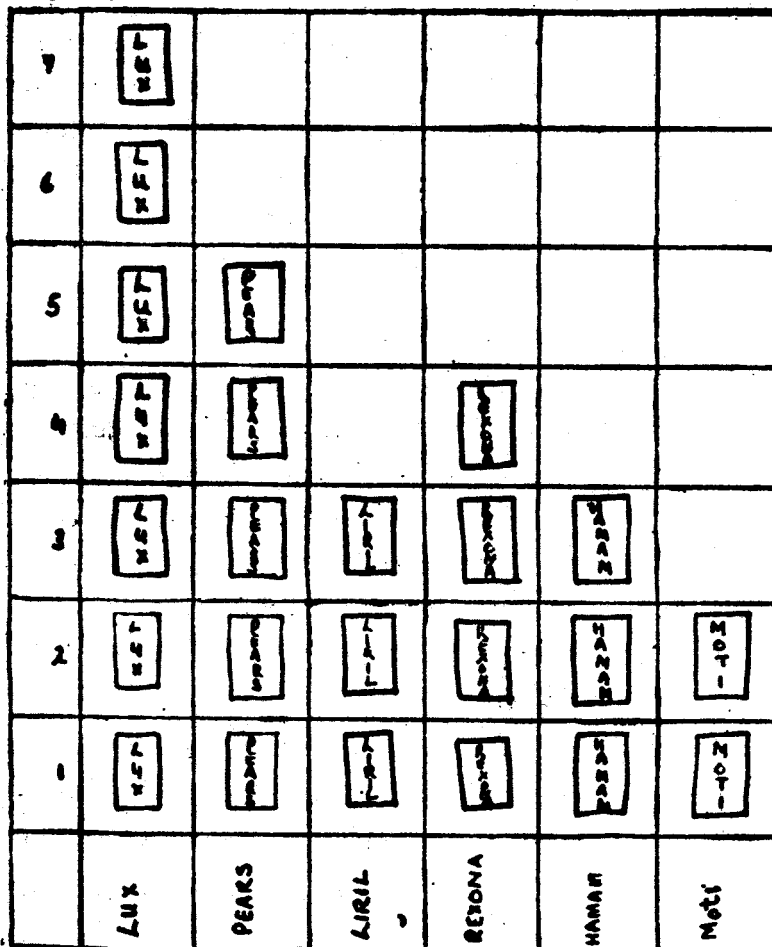
MAKING GRAPHS MEANINGFUL

Making graphs can be an enjoyable and satisfying experience in Standard III. I had no difficulty in getting the students to make and interpret a number of graphs. In fact the students had so much fun that I would like to share my experiences with you.

Graphs can be made on a variety of topics and in different ways. My graph making was graded into three steps. At first I used objects to obtain the graph, then the objects were replaced by symbols and when the children were confident enough, instead of symbols coloured squares were used.

We made our first graph with soap wrappers. Each child brought a wrapper of the soap used at home. We sorted the wrappers out and then mounted them on chart paper. Soon the children were able to see at a glance the most popular soap used by the class. This led to a lot of discussion—colours, shapes, sizes, the prices of the different brands were talked about. Names of different soaps were learnt and a meaningful lesson on cleanliness and health followed. Similar graphs can be made with toothpaste cartons, sweets, matchboxes, icecream cups.

SOAPS — LIKES AND DISLIKES
SCALE 1 □ = 1 Child.



Which is the most popular soap in this class ?

What is the cost of this soap ?

Which soap is least popular ?

What is its cost ?

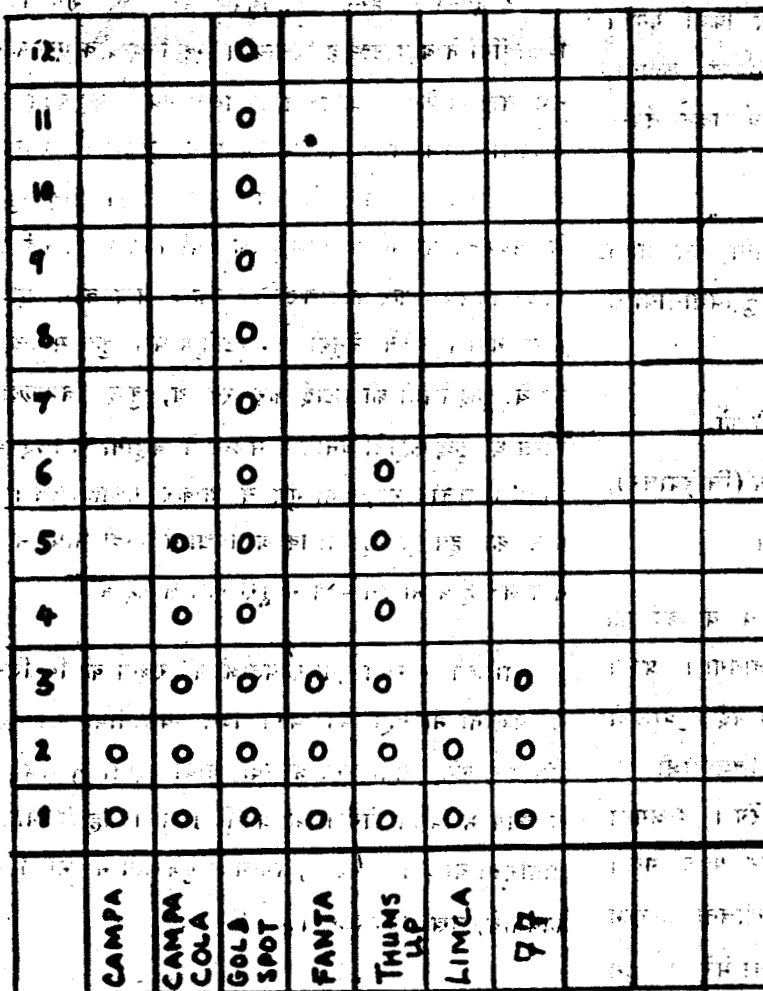
What is the difference in the price of these two soaps ?

Find out the cost of the other soaps used.

preferences for particular shades of a colour. We also made a graph on the different forms of transport used by the children to come to school. Here pictures were collected of cars, scooters, cycles, buses and used as symbols to make up the pictograph.

The graph shown below illustrates a survey of the favourite cold drink of the children in the class. Bottle caps were used as symbols to show the different brands.

Scale - 1 bottle Cap (O) = Child



Which is more popular-Thums Up or Campa Cola?

Later on a scale of one square representing two or five objects or events can be used.

हमारा जीव जगत

शिक्षा एक त्रिसुखी प्रक्रिया है जिसके तीन स्तम्भ हैं शिक्षक, शिष्य और समाजिक वातावरण। इस सिद्धांत को प्रयोगात्मक रूप देने तथा कक्षा के वातावरण को जोड़ने का एक विचार अचानक मस्तिष्क में आया। सातवीं की पाठ्य-पुस्तक में जीवों से सम्बन्धित चार अध्याय हैं। इन अध्यायों की विस्तृत व प्रत्यक्ष जानकारी प्राप्त करने हेतु हमने चिड़ियाघर स्थल पर जाना उचित समझा। विभिन्न प्रकार के प्रश्नों की सूची तैयार की गई। बालकों की क्रिया शक्ति को बढ़ाने के लिए शिक्षा की नवीन पद्धतियों को योजना में सम्मिलित किया गया। हिन्दी साहित्य की विधाओं जैसे निबन्ध, पत्र, संवाद, कहानी, कविता, रिपोर्ट आदि को ध्यान में रखते हुये योजना तैयार की गई।

किसी बाह्य स्थल पर जाने के लिए अनुमति कैसे प्राप्त करनी चाहिये इस ज्ञान को प्राप्त करवाने हेतु विद्यार्थियों से तीन पत्र लिखवाये गये।

- (1) अनुमति पत्र — प्राधानाचार्या जी को,
- (2) निवेदन पत्र — डायरेक्टर महोदय (चिड़ियाघर),
- (3) बस व्यवस्था पत्र — पाठक भाई को।

इस विषय पर एक चर्चा कक्षा में की गई व बालकों को निर्देशन दिया गया कि किस ढंग से कार्य किया जायेगा। प्रश्नों की सूची सभी बालकों की कापी पर लिखवा दी गई। बालकों को उत्साहित किया गया कि वे पशुओं सम्बन्धी जिज्ञासाओं का निराकरण स्वयं कार्यकर्ताओं के पास जाकर करेंगे। ४ अगस्त शनिवार के दिन हम प्रातः १० बजे चिड़ियाघर पहुंच गये। कला के शौकीन बच्चों ने पेंसिल से रेखायें खींचनी प्रारम्भ कर दी। सभी बच्चों ने कक्षाध्यापिकाओं तथा मेरे साथ इस स्थल का भ्रमण किया। कार्यकर्ता-वर्ग के पास जाकर नई जानकारी प्राप्त की।

सबसे अधिक प्रसन्नता मुझे इस बात की हुई कि विद्यार्थी प्रसन्न थे उनका आत्मविश्वास बढ़ रहा था। वे सभी अपनी अपनी शंकाओं का समाधान स्वतः ही कर रहे थे। कोई शीतानी नहीं कर रहा था। सभी व्यस्त थे प्रश्नों के उत्तर जानने के लिए। कक्षा से अधिक प्रसन्न वे इस स्थल पर थे। आत्मानुशासन का इससे अधिक अच्छा उदाहरण और क्या हो सकता है।

५ अगस्त से हमने इस विषय पर कार्य शुरू किया। विद्यार्थियों ने बड़ा उत्साह दिखाया। एक निबन्ध व एक कविता सभी बालकों के लिए अनिवार्य कर दिया गया यह कार्य कक्षा में किया गया। गृह-कार्य के लिए पाठ्य-पुस्तक (भारती) के अध्याय पढ़ने व प्रश्नोत्तर के लिये दे दिये गये। पाठ्य-पुस्तक के अध्यायों पर भी एक-एक करके चर्चा कक्षा में की गई ताकि बालक निर्भय होकर प्रश्नोत्तर लिख सकें। अन्य कार्य ऐच्छिक रखा गया। बच्चे समूहों में बंटे हुए थे। कुछ मॉडल बना रहे थे, कुछ चित्रों की कटाई कर रहे थे, कुछ चित्रकला में व्यस्त थे, कुछ कहानी बनाने में संलग्न थे, कहानी के लिए कभी आपस में चर्चा करते, कभी मुझ से आकर सलाह लेते। इस बात का हर्ष हो रहा था कि जो विद्यार्थी हिन्दी भाषा में रचि नहीं लेते हैं वे भी इस कार्य में पूरी रचि ले रहे थे।

बालकों ने स्वयं ऐसी कविताओं की रचना की कि जिसकी मैंने कल्पना भी नहीं की थी। जिन विद्यार्थियों का हिन्दी ओसत से कम है तथा अन्य अहिन्दी भाषी छात्रों ने चित्रकला के कार्य में विशेष योग्यता का प्रदर्शन किया। हिन्दी भाषा के अतिरिक्त बालकों ने अंग्रेजी, बंगला व गुजराती में भी निबन्ध कवितायें, लेख आदि लिखे।

अच्छे साफ-सुथरे लेखों व चित्रों को एक फाइल में लगा दिया गया। कुछ बच्चों ने भारत के नक्शे में विभिन्न अभयारण्य

व चिड़ियाघर दशगि, इन सबको क्रमानुसार लगा दिया गया। मैंने विषय सामग्री को विभागों में बाँटते हुये एक अनुक्रमणिका तैयार की।

प्राधान्याचार्या जी, व अन्य सहयोगियों के प्रति आभार एक पत्र के रूप में फाईल के प्रथम हिस्से में लगा दिया गया। बच्चों द्वारा धन्यावाद पत्र लिखवा कर डायरेक्टर महोदय के पास भेजा गया।

इस अध्ययन में बालकों ने बड़ा उत्साह दिखाया। समय की कमी हमें बराबर खटकती रहती। एक दिन में एक पीरियड इस कार्य के लिए कम प्रतीत होता था।

दूसरी समस्या यह थी कि चिड़ियाघर काफी बड़ा है जिसका हमने 2½ घंटे तक भ्रमण किया। कार्यकर्ता वर्ग ने कहा कि इसे अच्छी तरह देखने के लिये दो दिन चाहिये। यदि एकबार और देखने जाते तो यह निश्चित था कि बालकों के ज्ञान में और अधिक वृद्धि हो जाती।

तीसरी समस्या गर्मी की थी अगर उस दिन मौसम हमारे हमारे अनुकूल होता तो हम प्यास के चक्कर में समय न गंवाकर इस ओर अधिक ध्यान दे पाते।

कुल मिलाकर हमारा यह अध्ययन बड़ा ही मनोरंजक व ज्ञानवर्धक रहा।

—वीणा भूषण

इस प्रोजेक्ट का उद्देश्य बालक का सर्वांगीण विकास।

शारीरिक :—दो घंटे साथ-साथ चिड़ियाघर में खेलने से बालकों को शारीरिक चुसती का अनुभव प्राप्त हुआ।

बौद्धिक :—पशुओं का आहार क्या है? किस ढंग से वे रहते हैं? बीमारियों से किस प्रकार रक्षा की जाती है? पशुओं की आकृति व बनावट में भिन्नता क्यों?

व्यावहारिक :—बाह्य स्थलों पर कार्य-कर्ता-वर्ग व डायरेक्टर महोदय से किस ढंग से बातचीत करनी चाहिये। बड़ों को आदर देते हुये किस किस तरीके से अपनी समस्याओं का समाधान हमें करना चाहिये।

मानसिक :—बाह्य स्थलों पर मन पर किस प्रकार अंकुश रखा जाये इसका अप्रत्यक्ष ज्ञान बालकों को तब हुआ जब पानी की प्यास पर नियन्त्रण रखते हुये वे अपने कार्य में व्यस्त रहे।

सामाजिक :—एक स्थल पर साथ बैठकर भोजन करने व उसके बाद उस स्थल की सफाई का कार्य करने से बालकों

में सामाजिक भावना का विकास हुआ। पशु हमारी सम्पत्ति है आदि विचार बालकों के मन में उदित हुये।

सामान्य ज्ञान :—कितने रुपये सरकार इस पर प्रति माह खर्च करती है? कार्य-कर्ता वर्ग की संख्या क्या है? क्या वे अपने कार्य से संतुष्ट हैं? चिड़ियाघर में कार्य करने के लिए किस प्रकार की शैक्षिक योग्यता की आवश्यकता है।

इतिहास :—चिड़ियाघर की स्थापना कब और क्यों हुई? यहाँ पहले कितने पशु थे, जो समाप्त हुए उनका कारण क्या था आदि।

भौगोलिक :—विभिन्न पशु किस प्रकार की जलवायु में रहते हैं? भारत में कितने पक्षी अभयारण्य हैं? भारत में कुल कितने चिड़ियाघर हैं आदि से उनको भूगोल की जानकारी मिली।

—वीणा भूषण

सरदार पटेल विद्यालय

दर्जी

यह बड़ी चुलबुल जैतूनी हरे रंग की छोटी सी चिड़िया है। यह जोड़ी में या अकेली झड़वेरियों के बीच और बागों में पाई जाती है और चाहे कस्बा हो या चाहे खुला मैदान, दोनों इसके लिए बराबर है। यह पालतू, और भरोसे वाली चिड़िया है। यह बसे हुए बंगलों के बरामदों में वेधड़क आती-जाती तथा अपने घोंसले के लिए छोटा, सूती चियड़े वगैरह घर-बागों के बिलकुल पास पहुंचकर उठा लाती है या ढांचों पर चढ़ी बेछों, गमलों पर लगे पीछों के बीच शिकार पकड़ने पहुंच जाती है। इसकी आवाज बेली तेज खुशबिल टूह-टूह-टूह अथवा प्रेटी-प्रेटी-प्रेटी जैसी होती है। इसका आहार छोटे कीड़े और उनके अंडे-बच्चे हैं। लेकिन यह फूलों का भी पराय पती है। और इसलिए रेशमी फूलों और मटर जाति के कोरलों के पेड़ों की खूबसूरत लाल कलियों में अक्सर चोंच डालती देखी जा सकती है। दर्जी का घोंसला चिड़ियों की वास्तुकला का अनुपम नमूना है। घोंसला तो मुलायम रेशों, बाल, रुई और छोटी-मोटी लतरों, रावों का कप जैसा बना होता है परन्तु वह किसी चौड़ी पत्ती को इसके सिरे मोड़कर बनी और सिली एक क्रीप में रखा होता है। यदि कोई एक पत्ती इतनी बड़ी नहीं मिल पाती तो दो या अधिक पत्तियों को मिलाकर एक में सी देती हैं। सिलाई रुई या छोटी-मोटी लतरों को मोड़कर बने धागों से की जाती है। घोंसला मुश्किल से दो या तीन मीटर की ऊंचाई पर होता है।

—शालिनी और नन्दिता

बिल्ली मौसी

इतनी बड़ी उम्र तो पाई है

कई भतीजों की तारी है

सारे तीर्थ नहा आई है।

गंगा, जमुना, संगम, कोसी

बिल्ली मौसी, बिल्ली मौसी।

बच्चे इसके सघे सघाए

फिरती है मुंह में लटकाए

इन्हें पकड़ने को ललचाए

शर्मा, वर्मा, टण्डन, जीसी

बिल्ली मौसी, बिल्ली मौसी।

दिन भर उधम, फिरे मचाती

दूध बालकों का, पी जाती

कहीं कबूतर चेट कर जाती

रहते इससे तंग पड़ोसी

बिल्ली मौसी, बिल्ली मौसी ॥

—विवेकानन्द

हमारा जीव जगत

जंगल के लम्बू जिराफ

जंगल के लम्बू जिराफ

कुछ-हमसे भी बोलो !

तुम हो,

इतने ज्यादा लम्बे,

लगते हो बिजली के खंभे,

हम बच्चों के लिए

अजी, कुछ तो ठिगने हो लो

जंगल छोड़ो,

चलो बस्ती में,

गुजरेगी धीमा-मस्ती में,

चलो हमारे घर चलकर,

बोरी बिस्तर खोलो !

हम तुमसे

कुछ काम न लेगें,

तुमको बस आराम ही देंगे

अपने मन से,

अविश्वस के पानी को घों लो,

जंगल के झंझट को छोड़ो

चलो शहर में बिस्तर तोड़ो

झहरी मस्ती को

जीवन के प्याले में धोलो।

—अनुपम नागर

A VISIT TO THE ZOO

—Nandita Das

It was a fine day,

We were happy and gay;

We had gone to the zoo,

To see animals and birds too.

We were gay no doubt,

But the tigers was not so stout,

I asked my friends in vain,

Can you tell me what's the pain?

The tigers were in the cage,

More like a actors on the stage,

The tigers do not share their pain,

But they feel that they are tied with chains.

I wish they were free,

Like you and me.

बच्चों का काम

दो तोतों का वार्तालाप

(संवाद)

(यह एक चिड़ियाघर का दृश्य है। दो तोते, जो एक दूसरे के मित्र हैं पिजरे में बैठे बातें कर रहे हैं।)

प्रथम शुक: क्यों मित्र उन तोतों के झुंड को आकाश में विचरण करते देखकर लगता है तुम भी उसी विषय पर सोच रहें हो, जिस पर मैं सोच रहा हूँ।

द्वितीय शुक: हाँ भाई, स्वतंत्रता किसको नहीं अच्छी लगती। यहाँ, इस छोटे से कटघरे में जहाँ पंख फँलाने तक की जगह नहीं है मुझे उन दिनों की याद आती है जब मैं उन तोतों की तरह उड़ाने भरता था। मेरा एक छोटा सा घोंसला था तथा शिशु थे। खाने के लिए स्वादिष्ट फल होते थे। परन्तु एक दिन एक क्रूर बहेलिए ने मुझे चिड़ियाघर के लिए पकड़ा और मैं यहाँ आ गया।

प्रथम शुक: मेरी जाति बहुत अल्प मात्रा में पाई जाती है। इसलिए जब नये दर्शकगण आते हैं तो वे मुझे बड़ी जिज्ञासा से देखते हैं तथा जिसके कारण मैं बड़ा व्याकुल हो जाता हूँ। कभी-कभी तो मैं अपना भोजन भी अनिच्छा से करता हूँ।

द्वितीय शुक: हाँ, मित्र। ये तो तुम ठीक कहते हो परन्तु जीवन में बाधाएँ तो आती हैं। जिस व्यक्ति के जीवन में कोई कठिनाई नहीं, वह एक प्रकार से निर्जीव है। तथा इसके साथ दोनों शुक अपने विचारों में मग्न हो गये।

—मनीश श्रीवास्तव

मुन्नी का तोते से प्यार

आ रे-सुग्गा आ रे-सुग्गा
बैठ हाथ पर आ मेरे
अच्छी चीजे छोड़ के
कैसे पेड़ पसंद हुआ तेरे
रोज तुम्हे हम ताजे-ताजे
मेवे फल खिलावेंगे
दाब, चिरोजी, जामुन, लीची,
बेर का मजा चखावेंगे ॥

है मेरी प्यारी लड़की तू
प्यार बड़ा तुझसे मेरा बेशक
पर इस जंगली पेड़ ने
मोह लिया है मन मेरा
इसके कारण से मैं
स्वच्छंद विच्छंद चरता हूँ
पिजरे का कुछ खोफ नहीं
मैं उदर मौज से भरता हूँ॥

—विभा गुर्तु

“पशु और हम”

(पशुओं पर कविता)

कितने ही पशु,
कितने पक्षी,

चिड़ियाघर की अदा निराली
कितनी ही है प्यारी प्यारी।

कुछ हैं भालू,
कुछ हैं बन्दर,

कुछ शेर चीते कलंदर,
देखो वह आया है मोर

लेकर दो-दो चोर
अरे-अरे चिड़िया रानी

कितनी मीठी इसकी वाणी।
अच्छ अब हम चलते हैं

उन हाथी महाराज के पाम
जो बैठे हैं पास ही पास।

यह तो चूस रहे हैं गन्ना
और हम लिख रहे हैं पन्ना।

अब हम गरमी से हैं खफ़
ओर हो रहे हैं, यहाँ से दफ़।

—पावल गर्ब

Idioms on Animals

English

Brave as a lion.

Wise as an owl.

Stupid as an ass.

Calm as a cat.

Proud as a peacock.

Faithful as a dog.

विवेकानन्द

BOOK REVIEWS

DEVELOPMENTS IN DRAMA TEACHING

by Lynn Mc Gregor
Open Books London 1976
126 p £ 3.90

DEVELOPMENTS IN ENGLISH TEACHING

by Michael Saunders
Open Books London 1976
126 p £3.90

Source ; Lyall Book Depot, Daryaganj, Delhi.

These two books belong to a series of books, the theme of which is 'The Changing Classroom.' Changes in school education have been on such an unprecedented scale that life in any classroom has been transformed. School has become a surprising place not only to those who work with them like parents and employees - but even to those who work in them, like teachers and students.

In the first book, Lynn McGregor - an experienced teacher of drama and leader of the School Council Drama Project, speaks of the exciting possibilities of drama in the curriculum. Illustrations of current work in schools are included. Case Studies which represent different ways in which drama is taught will help teachers to find activities possible in drama. A number of debatable issues like

'Should child drama lead to theatre or not ?

'Would block time-tabling bring in more integration of drama with other subjects or not ?

are discussed intelligently. Teachers will find the book interesting as it is based on the author's own teaching experience.

Michael Saunders attempts, in his book, to answer a number of questions.

Does the progressive teacher of English with his zeal for creativity ignore the basics of the language ?

Should English be seen as a 'pure' academic discipline concerned with linguistic usage and works of literature or is it primarily an expressive child-centred activity which helps pupils to come to terms with themselves and their world ?

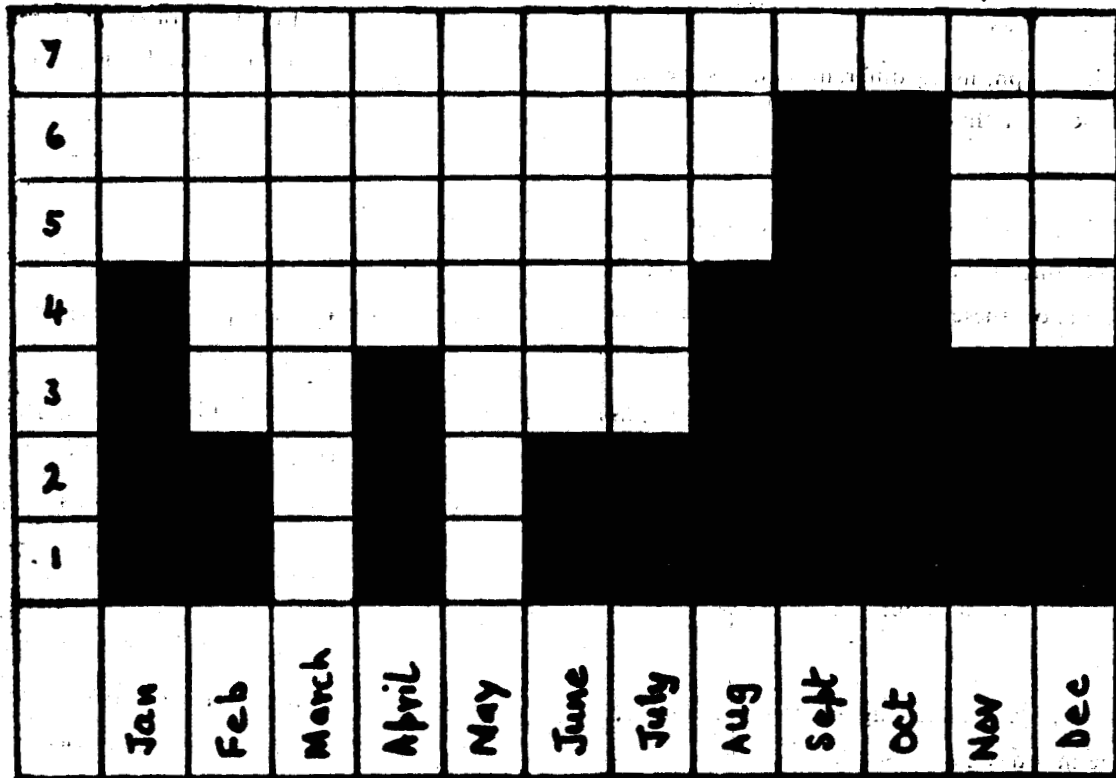
The author looks critically at these questions and many more. The new approaches he deals with like team teaching discovery methods projects work etc. Are thought-provoking. English teachers and others too will find his views interesting and useful in the context of 'The Changing Classroom'.

Some other books in the Series are :

1. Development in Art Education
by Terence Woolf
2. Development in Early Childhood Education
by Janet Lancaster and Joan Gaunt
3. Development in Geography Teaching
by Philip Boden
4. Development in History Teaching
by Ian Steele
5. Development in Mathematics Teaching
by F. R. Watson
6. Development in Modern Language Teaching
by Colin Wringe
7. Development in Social Studies Teaching
by Dennis Gleeson and Geoff Whitting.

BIRTHDAY CHART

Scale 1 ☐ = 1 Child



Note : At first use different colours, to show the number of birthdays in each month. This makes it easier for the children to count up the squares.

In which month have the maximum number of children been born ?

In which month are the least number of children born ?

Are there any months where there are no birthdays ?

Which season seems to have the most birthdays ?

I give below some exercises in graphs which teachers may find useful to get their classes started. It is important that after the graphs is made questions are asked to find out that there is genuine understanding of what is being done and that it is not merely an exercise in collecting objects or colouring squares.

SOME MORE IDEAS :

- Find out from your classmates which fruit or vegetable they like. Show your results in a pictograph.
- Here are the number of books borrowed from the Junior Library. Draw a graph showing this information.
 Class III A 26
 Class III B 20
 Class IV A 16
 Class IV B 30
 Class V A 32
 Class V B 40
- Find out the number of children in each class from Nursery to Standard V. Make pictograph to show this information. You may use matchstick figures to show the children.

4. Find out from five children how many persons there are in their families. Show this information as

- a pictograph, using different symbols for men, women and children
- in a column graph.

5. Find out the heights of eight boys in your class and draw a column graph. Find out the heights of these boys. Do you find that the heights are different?

6. Draw a column graph for your class for the number of books read.

7. Count the number of pages in a book. Draw a column graph for the number of pages in a book. Show this in a column graph.

8. Draw a graph showing how you spend your time in a day:

- the time spent sleeping
- playing
- at school
- eating
- watching television

THE SCHOOL THAT I'D LIKE

The school that I'd like would be embedded in lush greenery,

There would be trees to climb, no noise of traffic or machinery,

The school that I'd like would be a place with minds and bodies free ;

We'd do what we pleased, no fear of things called disciplinary.

The school that I'd like would give a choice of things I like to do,

Not syllabus bound I'd find out for myself what things are true ;

The school that I'd like would value everybody's point of view,

No tests or exams, no homework, no more senseless mug and spew.

Something has got to be done,

There has to be a way ;

Something has got to be done,

And not tomorrow but today. I

From "Kidstuf"

Lyrics by Barry John

Inderjit Sohi
Springdales School
Pusa Road, New Delhi

People seldom think how imaginative a process science can be. As Faraday himself put it :

"I hope you will always remember that whenever a result happens, especially if it be new, you should say : what is the cause ? Why does this occur ?"

As he suggests, observation raises questions, and these invite the use of imagination to provide satisfying explanations.

would soon get bored with reading, finding no point in the exercise. This is an extreme view, but there are many children arriving in school whose language development is so poor that they cannot express themselves sufficiently to be understood.

For good language development the child needs a rich experience of the world but he needs also some adult to discuss this experience with so that it can be interpreted and memorised.

Body Co-Ordination

A young child learns to reach out to grasp something he wants. At a later stage he learns to climb the stairs. He learns each of these steps by co-ordinating movements of his body, eye with hand, one foot with another. The importance of body control or co-ordination as it affects reading may not be apparent at first. A young child, however, must learn to co-ordinate his eyes to focus on pictures and later on letters which form words. He needs not only to focus his eyes, but also to move them in a particular way, from left to right. Later he will need to be able to co-ordinate eye and hand as he learns to write.

Children can gain both physically and mentally as they learn to tackle their environment, and are involved in climbing, crawling, jumping or

managing similar tasks which need manipulative control.

Play

Play is a means by which the young child faces the problems he meets at home and in the world around him. The child must learn to respond to and to recognise the meanings of things and events and to understand the problems of human relationships. Through play a child explores and manipulates whatever he can manage to transform through his imagination into his conception of adult world.

In order to do this a child makes use of language, play materials and games. Through these he creates his own miniature world; a world more amenable to his limited strengths, skills and understanding.

Above all, play provides the perception, language, critical thinking and problem-solving experience which pave the way for the child to tackle reading with understanding and ease.

(From

TOWARDS READING : Practical hints for parents and teachers of the under fives.

by Nonie Hunter

A book in the series 'Teaching 5 to 13—Reading' published by Macdonald Educational.)



From Page 3

variety of media such as paper or wood, as well as for the display of records through tastefully-mounted drawings and pieces of script. Labels and headings, too, may involve creative work in the form of artistic styles of lettering. All these activities exploit children's readiness to advance their manipulative and creative skills. At this time, also, children are reaching a stage of more specific enquiry and experiment in their environmental studies, testing out their ideas in a practical way. It is sometimes felt that experimenting (particularly if it involves recognisable scientific studies) can be carried out only with specialised apparatus. This is untrue for in environmental studies much experiment can be carried out with improvised equipment. For example, a child can make his own clinometer when he needs to measure the height of a pole or a building, using a piece of cardboard cut to a right-angled isosceles triangle with a plumb-bob made from a nail suspended from a string glued to one of the 45° angles. Or, a child at this stage can make a perfectly acceptable cage from everyday materials for keeping a small animal for close observation for a while. In any event children at this stage benefit from being encouraged to be ingenious, to invent and to construct from simple materials many of the things they need for their environmental studies.

In every case the important thing is that the children shall have the means available to express and practice their creative and manipulative abilities. The teacher has three main tasks here; firstly to suggest where such skills are appropriate and to offer ideas (or alternative ideas where the child's own proposals are beyond their capabilities). Secondly the teacher should ensure that the materials required are available. This is sometimes difficult to forecast but in time one becomes aware of the major items which are needed. One useful aid is a class 'junk box'. The junk box is simply a large box or a cupboard into which such things as empty containers, pieces of scrap textile material, pieces of wood and other spare items are stored as they become available. It is surprising how much use children can make of such junk for their creative work. Finally, the teacher must be prepared to give practical help when it is needed. Frequently children at this stage run into difficulties for, after all, they are developing their skills and are not necessarily highly competent in them. Motivation dissipates rapidly if they are unable to complete the task they have attempted. It is here that a little assistance to get over the difficulty helps to keep up the impetus of their work.

Seen in this light, environmental studies becomes more than studies of the local

environment or learning subject skills through the environment. It becomes an important agency for helping forward

the pattern of general intellectual development of children and this is fundamental to true education.

(Mr. R. F. Morgan, the author of this article, has had a long and distinguished career of over thirty years in education. He is particularly involved with educational research, the development of curricula and syllabi in the field of Environmental Studies both at Primary and Secondary levels. He has been a member of the Schools Council Working Group on Environmental Educational in the U.K. and was associated with the UNESCO/UNEP Environmental Education Programme. He has a number of publications to his credit, some of which may be found in the Teachers' Centre Libraries in Delhi. More recently, he has spent a year in India working at the N.C.E.R.T. in setting up Environmental Education Programmes in collaboration with the Regional Colleges of Education.

PATHWAYS asked Mr. Morgan to explain in simple language, for the benefit of practicing Primary teachers, the implications of the researches of Jean Piaget and how they affect the planning of work for children in the primary age-group).

TO OUR READERS

With this issue, the last for 1979, PATHWAYS completes one year of its life. We would like to say 'Thank You' to our subscribers. Their number has grown considerably over the past twelve months and their encouragement has kept us going.

We have also grown in size, starting from a mere twelve pages to our present twenty-four. In order to make this even more of a News-letter **for** teachers and **by** teachers we have some request to make.

First, we would like many more practising teachers to get involved by sending in articles about their classroom experiences and new ideas they have tried out. While PATHWAYS does cater largely to teachers in Delhi, it is now being sent to many other towns and cities. We would like to hear from these outstation subscribers too. Unless our readers write to us, we are forced to commission articles only from teachers known to us in a few schools of Delhi or adapt material from interesting articles and books. Your articles should be sent to Mrs. Gayatri Moorthy at the address given below.

Second, we would be happy if you would circulate your own copy of PATHWAYS amongst your friends and colleagues. Perhaps you might even succeed in getting one or two of them to subscribe for the next year. You will have noticed that from the last issue PATHWAYS carries articles of interest to teachers in the Middle and Senior Schools also.

Finally, a reminder to renew your subscription which will lapse in the coming year. The first issue was sent free to many readers and they are requested to send in their subscriptions (Rs. 5/- in Delhi; Rs. 6/- for outstation) to cover the issues of April, August, November 1980 and February 1981. Money orders may be sent to the Educational Planning Group, 4 Raj Niwas Marg, Delhi-110054.

With our warmest goods wishes for 1981.

The Editors.

show what it is really like.

Visual Realism : There is now a closer and more detailed resemblance between the object and the pictures of it.

The candle has been a frequent topic in Science Text-books and given below is a list of ideas, activities and investigations that might arise from the study of a candle. Make use of the candle and its flame to develop children's powers of observation questioning and thinking.

Ideas which may Emerge :

These are especially likely to be extended and clarified through this study.

Burning, Evaporation, Condensation Melting, Hardening (of wax).

Expansion/Contraction

Conduction (of heat)

Convection (in gases/liquids)

Capillary rise (in string/wick)

Repulsion of water by wax.

Safety.

Solubility. Floating.

Friction. Lubrication using wax.

Translucence. Brightness.

Amount. Time.

Activities : What the children can DO or try FIND OUT

Observing a lighted candle - its effects, conditions affecting it, its products.

Considering its uses, history.

Comparing, measuring.

Drawing, modelling, painting.

Writing factual reports.

Explaining verbally/in writing.

Experimenting.

Objects or Phenomena which the Children might Investigate :

Heat, Light, Colours, Air, Water.

Candles and Nightlights, Lanterns,

Oil lamps.

Fires and flames.

Waxes and paraffins, Fuels.

Wick, string, paper.

Textiles.

Waxed paper, waterproofing.

Carbon black, Lamp black, Potato prints, Ink, Lino blocks.

Wax crayons, wax soluble pigments, rubbings, wax resist painting, batik.

Lubricants, polishes.

Clocks.

Pinhole cameras, lenses Photometers.

Pictures (postcards illustrating candles).

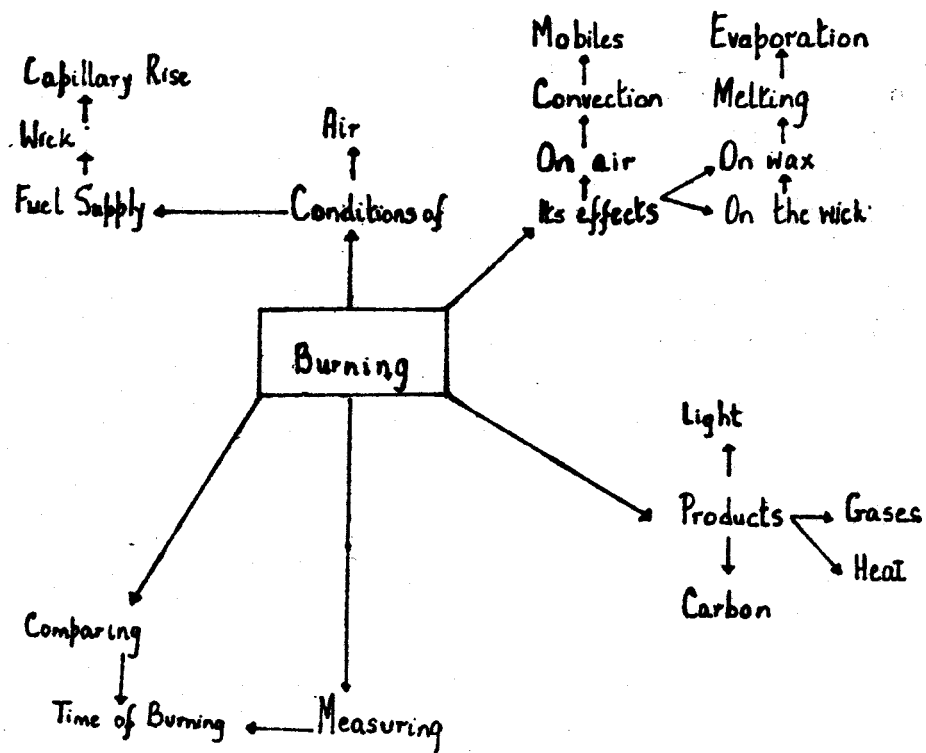
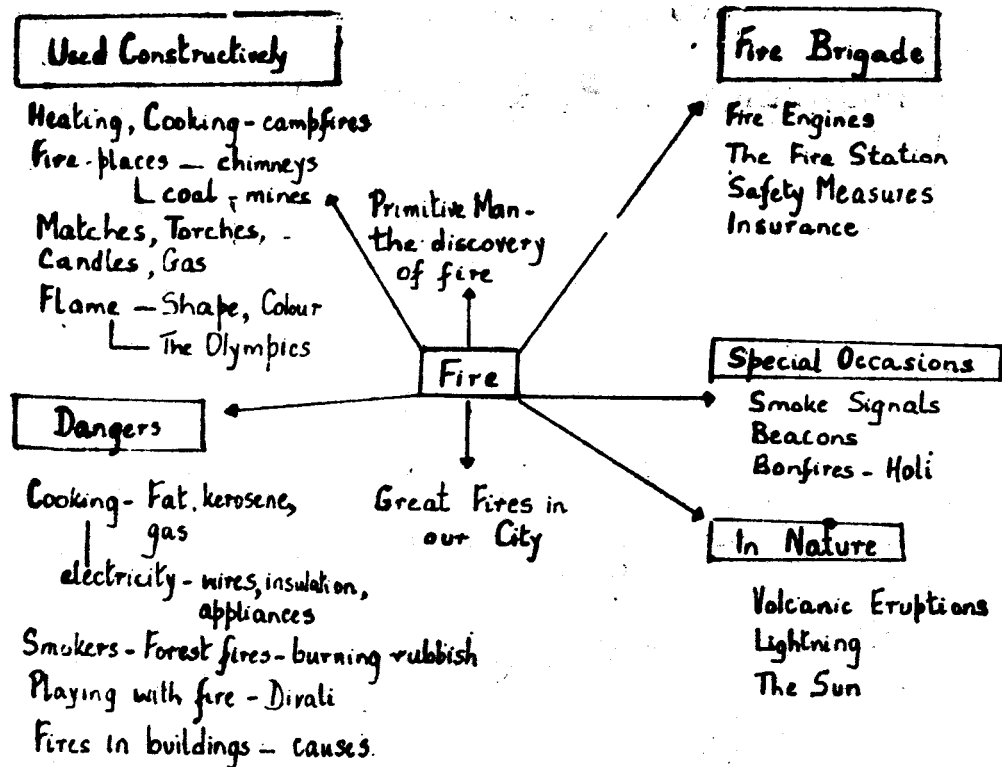
Mobiles, convection spirals.

Quotations - "Colours seen by candlelight will not look the same by day" - Browning.

Putting Ideas Together :

Many useful ideas can come by putting together ideas from each of these sub-sections or working with separate sub-sections. In this and other ways a web of possibilities can be built up around a topic of interest and, if you wish, can be written down as a Flow Diagram. However a Flow Diagram is often neither essential nor possible. Nor need it take an special form; a quickly scribbled sketch can be just as useful.

Given overleaf are two samples.



(The above article has been taken from 'CANDLES' by John Bird and Dorothy Diamond - a book in the series Teaching Primary Science - published by Macdonald Educational Ltd.)

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